

ET Docket 04-37 - Comments

Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems

Comments:

- I work for a Telecommunication company as a field technician and have been a licensed Amateur Operator for the past 10 years.
- It is a well-known fact that any wire that is carrying a radio frequency signal of more than about 10 kHz will start to radiate that signal. Such radiated radio signal will be reflected by the ionosphere and can be detected far beyond local short distances. Amateur Radio Operators regularly make oversea contacts with transmitters of sometimes less than 100 milliwatt. It will be almost certain that BPL signal originating in the United States can be heard as offensive noise in other countries.
- Corroded terminations in power distribution systems can contribute to additional signal distortions that raise the noise level across the offending BPL frequency spectrum.
- **I cannot see any reason why the FCC as a regulatory agency for telecommunication is actively promoting an interference producing system that will pollute the whole radio frequency spectrum from about 2 to 80 MHz.**
- Most of the Part 15 FCC regulation addresses rules for unlicensed operation over a small frequency band. BPL literally takes over all the frequencies below the HF bands, the whole HF band and the partial VHF bands with its spread spectrum digital signal.
- Amateur Radio and FEMA play an important part in providing communications in case of emergencies, be it in extreme weather condition, in an earthquake or in a man caused disaster. Low-level HF signals are the only way that communications are kept up when power lines are down. Signals from nearby BPL systems can make HF communications impossible.
- Power Companies do not respond to interference problems when an insulator is arcing. I do not see why they will do any better when RF interference problems are reported.

Discussion:

- There are already wireless systems available that handle digital signals in the 2.4 GHz and 5 GHz frequency ranges that do not interfere with licensed radio spectrum users.
- **BPL does NOT provide any gain for Homeland Security. BPL is more of a hindrance.**
- Section 15.107 addresses conducted limits of radio frequency into the power lines. It is understandable that trying to measure 250 or 1000 microvolt on a 1000 or 4000 Volt AC line is quite impossible and potentially lethal.

- (#45 – Access BPL Measurement Guidelines)

Section 15.107 - Suggested alternate mode for measuring the BPL interference levels:

Since BPL as a unlicensed operation is polluting multiple frequencies of licensed communication services, the transmitted BPL signal should be limited to a set level below commonly received signals of the licensed services. Commercial radio receivers use 50 (or 100) microvolt at the 50-Ohm receiver input as definition for a signal strength of S9.

BPL signals should not interfere with regular licensed communications that have at least a defined signal strength of say S5, measured with a calibrated receiver within a certain defined distance from the BPL source signal.

If BPL cannot keep their offending signal level below S3, they have no business transmitting signals on frequencies of any licensed services.

See the below table of receiver input signals.

(uV means microvolt at the 50 Ohm receiver input)

S Meter Points	RF voltage at receiver input	dBm into Z = 50 Ohm
S0	0.1 uV	-127 dBm
S1	0.2 uV	-121 dBm
S2	0.4 uV	-115 dBm
S3	0.8 uV	-109 dBm
S4	1.6 uV	-103 dBm
S5	3.2 uV	-97 dBm
S6	6.3 uV	-91 dBm
S7	12.6 uV	-85 dBm
S8	25 uV	-79 dBm
S9	50 uV	-73 dBm

- Several European and Asian governmental telecommunications authorities have field tested BPL systems and found them to be too cumbersome and offending with the prevailing interference to licensed spectrum users, and they have dropped BPL service altogether.

I hope that the FCC will come to the same conclusion before too many of these BPL systems are put in service polluting our air waves with their offending signals.